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ABSTRACT

This history of the development of the Comprehensive Career Education (School Based) Model (CCEM), includes historical antecedents of the project, early organizational activities, major conceptual focuses, and current efforts. In June 1971 the Center for Vocational and Technical Education (CVTE) at The Ohio State University in Columbus, Ohio was awarded a $2 million grant by the U.S. Office of Education (USOE) for the developmental phase of this career development program, which utilizes a comprehensive systems approach for Kindergarten through post-secondary education. Supplemented by a $1.7 million grant in October 1971, the USOE selected six Local Education Agencies from 53 candidates, providing each with a CVTE resident project team to offer technical assistance, on-site consultation and a direct liaison with CVTE, which is accountable to the USOE for the entire program and funds expended. The CCEM project identified: (1) eight conceptual elements, (2) eight student learning objectives, and (3) a matrix, or developmental model, with 32 themes and 1,477 sequential goals extending across all grade levels. Operational and evaluation procedures for CCEM are delineated, and program developments are specified. (AG)

ED 068736

The Comprehensive Career Education Model

PROGRESS REPORT

JULY 1972

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ED 068739

THE COMPREHENSIVE CAREER EDUCATION MODEL

PROGRESS REPORT

(Covering the period from
June 1971 through May 1972)

Submitted by
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FOREWORD...

This report traces the development of the Comprehensive Career Education (School Based) Model from its inception to date. It identifies some of the historical antecedents of the project, describes the early organizational activities, depicts some of the predominant conceptual problems, and reports on general areas of effort presently underway. The report is written in a popular journalistic style for the general public. Future reports will provide a chronological reporting of project activities on a quarterly basis.

Project-generated materials will be released to the ERIC Clearinghouse for Vocational and Technical Education. Those interested in these developmental materials may obtain them through this source.

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July 14, 1972

HOW IT ALL BEGAN...

The Emergence of Career Development Theories

The concept of Career Education is neither new nor revolutionary; it has evolved from decades of experience and experimentation with career development theories.

The current movement in American public schools can be traced to the early 1950s, when guidance and vocational experts, such as Donald Super, Henry Borow, Edwin Herr and Martin Katz, theorized about the need to make a student's learning experience more relevant to the real "world of work."

The "Sputnik" scare of the late '50s prompted American schools to de-emphasize vocational training and urged students to concentrate on mathematics, the sciences, and college preparatory courses. Then, in 1963, Congress passed a broad Vocational Education Act. It stimulated interest in career development theory and focused new attention on preparing the individual student for job performance and mobility. It had far-reaching effects: some of the early components of Career Education were first identified in the exemplary vocational education projects funded under this and subsequent legislation.

The 1960s was a decade of sharp criticism of American education. As technology became increasingly complex in a modern society, there was growing popular concern that the traditional public school lacked relevance for many young people. Books attacking education occasionally reached best-seller status, (i.e., "Why Johnny Can't Read"); and calls for wholesale reform or sweeping change in education became commonplace. However, as

Derek C. Bok, president, Harvard University, observed in January, 1972, "It is much easier to castigate the 'lock step' of our curricula than it is to conceive of truly viable, useful alternatives."

One such alternative, however, has received serious attention and is now being strongly supported through the U. S. Office of Education. This concept was identified in July, 1970, when the National Advisory Council on Vocational Education issued a report which called for a complete reform of the American educational system to include Career Education.

Project Rationale

A major redirection of the American public school system oriented toward Career Education is no small undertaking. Of the many factors which spurred this developmental movement, perhaps the primary motive is that "large numbers of students graduating or leaving schools are unable or ill-equipped to enter the labor force." (Taylor, "Perspectives," 1972).

Questions frequently raised today about the American public school system include the following: (Miller, "Philosophy," 1971)

1. Why do 30% of our public school students drop out before completing high school?

2. Why are most school courses designed for 20% of the students who complete a college education, when 80% of the careers that people actually pursue do not require a college degree?

3. Why aren't 15,000 school hours (Kindergarten-12th grade) enough to prepare the average student to enter the world of work, if he chooses to do so upon exiting high school?

4. Why is the relevance of school repeatedly being questioned by students?

5. Why do people enter careers by chance rather than by design?

The purpose of a comprehensive career education system is to help alleviate the problems underlying these questions. As Sidney P. Marland, U. S. Commissioner of Education, points out, "None of us really learns in a vacuum. We learn for a purpose...I would expect Career Education to heighten the intellectual quality of education, because school work would become more meaningful and stimulating, resulting in higher motivation."

The Concept of Career Education

The first actual thrust to implement Career Education in American public schools emanated from the U. S. Office of Education (USOE). Commissioner Marland expressed the view that "all educational experiences--curriculum, instruction, counseling, etc.,--should be geared to preparation for economic independence, personal fulfillment, and an appreciation for the dignity of work."

While Career Education has not, as yet, been precisely defined, one emerging concept is that it is a developmental process which begins in kindergarten and continues through the adult years. The student progresses from an initial awareness of careers to exploration and preparation, in a continuous advancement toward a satisfying adult life-role.

A concept with such broad objectives is bound to incur substantial skepticism and disbelief. Dr. Keith Goldhammer, Dean of the School of Education, Michigan State University, cautions that "It would be deluding to think of the 'careers curriculum' as a panacea for all our educational

ills." Conversely, he adds that it would be equally deluding "simply to reject the concept without carefully assessing its potential."

USOE Backs Career Education

Early in 1971, the USOE decided that there was sufficient merit in the concept of Career Education to justify a research and engineering effort. Four experimental models were to be independently developed--creating a career-oriented program that would be (1) school-based; (2) employer-based; (3) home or family-based; and (4) residential or community-based.

CVTE Gets CCEM Contract

In May, 1971, The Ohio State University's Center for Vocational and Technical Education (CVTE) at Columbus, Ohio, submitted a proposal to USOE seeking the role of project manager for the school-based model. The purpose of the project was to develop, test and install a Comprehensive Career Education Model (CCEM) by restructuring the existing American educational program around career development needs. The following month, the CVTE was awarded a $2 million grant for the developmental phase of the school-based model through March 16, 1972. A supplemental grant of $1.7 million was approved by the USOE in October, 1971.

The USOE project guidelines stipulated that the Model was to be directed by the CVTE and installed in several Local Education Agencies (LEAs) throughout the country. (Figure 1 on page 6 illustrates the USOE conceptualization of the school-based model.)

Selection of LEAs

Fifty-three potential LEAs were identified by the USOE. Several

COMPREHENSIVE CAREER EDUCATION MODEL

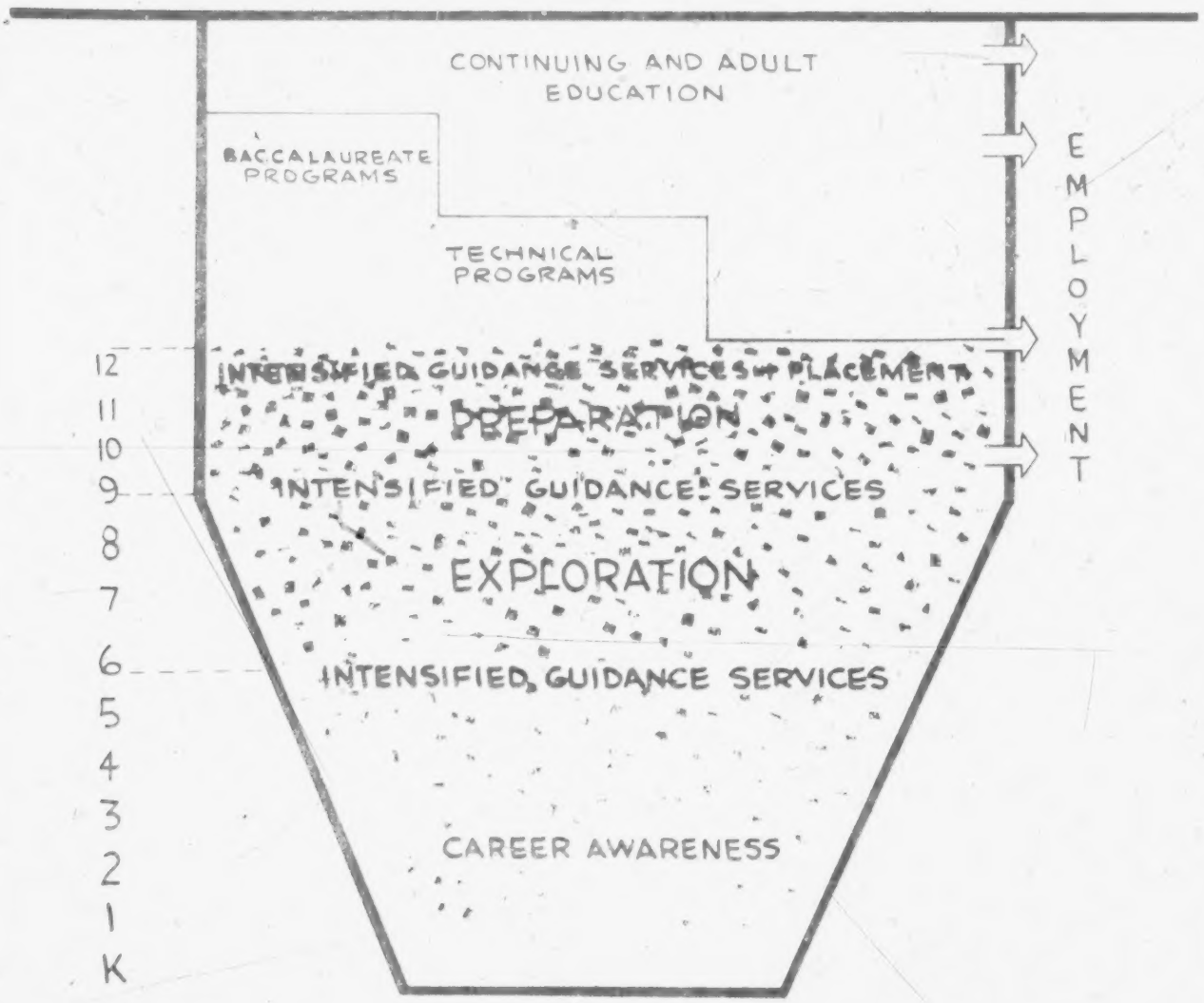

Figure 1

USOE Conceptualization of School-Based Model

screenings reduced the number of candidates to thirteen. These urban or semi-urban school districts represented the strongest and most comprehensive K-12 Career Education programs in our nation.

The 13 districts were invited to compete for roles as project subcontractors, and 12 of the 13 candidates submitted proposals to USOE by June 30, 1971. The 12 sites were visited by a team of USOE appointed evaluators, to assess the ability of the districts to participate effectively in the project.

On August 9, 1971, the USOE selected the following six LEAs: Atlanta, Ga., Hackensack, N.J.; Jefferson County, Colo; Los Angeles, Calif.; Mesa, Ariz.; and Pontiac, Mich. Each LEA was provided with a CVTE resident project team to offer technical assistance, on-site consultation and a direct liaison with CVTE. (Figure 2 on page 8 pinpoints the six LEAs.)

CVTE, as the prime grantee, supervises individual LEA subcontracts and is accountable to the USOE for the entire program and for all funds expended.

Scope of LEA Participation

The CCEM will be installed and tested in the entire school districts of Mesa, Ariz.; Pontiac, Mich.; and Hackensack, N.J. It will be implemented in a portion of the school districts of Jefferson County, Colo.; Los Angeles, Calif.; and Atlanta, Ga. More than 80,000 students and 3,500 teachers in 114 schools at these six sites will experience the first developmental effort of the CCEM. Initial components of Career Education are scheduled to be field-tested at all sites during

the 1972-73 school year. (Breakdowns of LEA data are given in Table 1 on page 9 .)

COMPREHENSIVE CAREER EDUCATION MODEL
COOPERATING LEAs

LEA Data
Number of Schools, Pupils & Teachers
served by CCEM

A. Schools

LEA	Elementary Schools	Junior High Schools	Senior High Schools	TOTAL
Atlanta	19	1	3	23
Hackensack	5	1	1	7
Jefferson County	8	2	1	11
Los Angeles	6	3	1	10
Mesa	20	5	2	27
Pontiac	27	6	3	36
TOTAL	85	18	10	114

B. Pupils

LEA	Elementary	Junior High	Senior High	TOTAL
Atlanta	10,036	775	4,887	15,698
Hackensack	2,531	991	2,638	6,160
Jefferson County	3,034	1,169	1,434	5,637
Los Angeles	4,167	4,540	2,634	11,341
Mesa	12,973	6,202	5,051	24,226
Pontiac	12,880	4,694	3,904	21,478
TOTAL	45,621	18,371	20,548	84,540

C. Teachers

LEA	Elementary School	Junior High	Senior High	TOTAL
Atlanta	391	45	259	695
Hackensack	148	82	158	388
Jefferson County	112	47	56	215
Los Angeles	152	221	133	506
Mesa	430	235	199	864
Pontiac	593	210	188	991
TOTAL	1,826	840	993	3,659

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WHAT DOES CAREER EDUCATION CONTAIN...

Even the earliest views of the CCEM envisioned it as embracing some learning experiences that are already a part of American public education, and others that are not. It was strongly felt that most of what is now taught in the public schools is a vital part of Career Education. For example, learning to read is obviously a crucial aspect of career preparation. So, too, is learning to use mathematics, and learning about the physical and social aspects of the world we live in. But it was also discovered that what we now have in contemporary education is not nearly enough.

The first major task confronting the CVTE staff, therefore, was determining exactly what needs to be added to contemporary education to make it comprehensive Career Education.

A survey of existing career development literature was conducted, examining and integrating reliable theories in the areas of vocational education, guidance, curriculum development, and human growth and development.

Early position papers dating back to Super's 1957 "primer" on career development and more recent material by Dr. Keith Goldhammer, Dr. Gene Bottoms, Dr. Louise J. Keller and others were examined. From this research effort, eight areas of educational experience were identified which summarize the basic conceptual elements or distinctive parts of Career Education.

These elements represent areas where student learning can and should take place in a comprehensive career education program. They include: Self Awareness; Career Awareness; Appreciations/Attitudes; Economic Awareness; Beginning Competency; Decision Making Skills; Employability Skills; and Educational Awareness.

Two New Concepts

While there are many ways that a career education system may be described, two new concepts evolved during the initial development of the CCEM: (1) the hypothesis that these eight elements represent a valid picture of what should be infused into contemporary education to achieve Career Education; and (2) the theory that student learning in each of these element areas can be achieved through a cumulative, grade-by-grade learning experience that builds on a foundation developed in earlier years. Ideally, the accumulated learning should provide the exiting student with all of the capabilities defined as being the goals of Career Education.

Validation of CCEM Elements

In August, 1971, seven outstanding consultants in various educational specialties reviewed this preliminary conceptualization of the CCEM. They analyzed the relative strengths of the eight elements, and agreed that the elements appeared to be both necessary and sufficient for weaving a comprehensive career education curriculum into an existing school district's program.

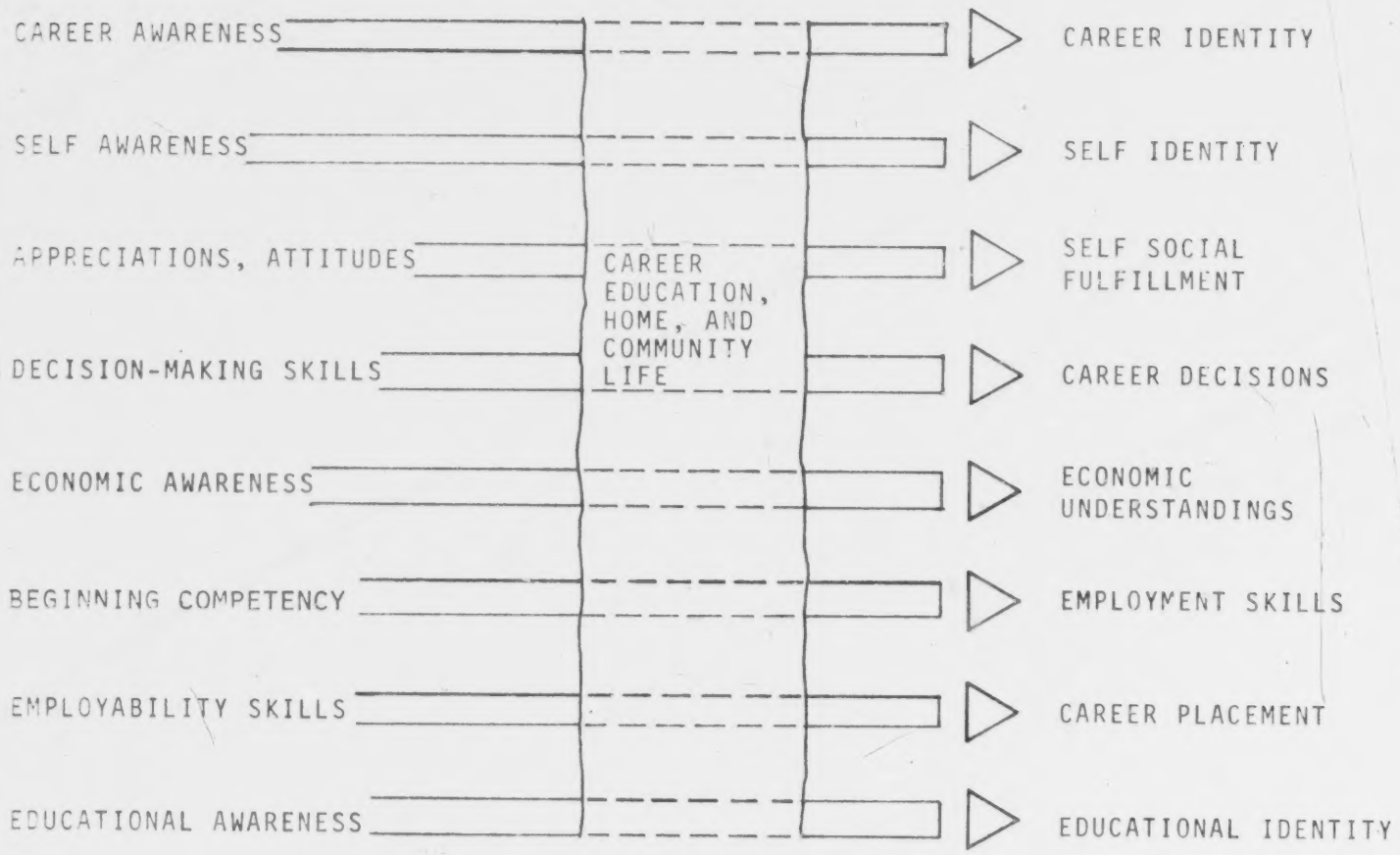
The CCEM elements later were examined by specialists and consultants in various academic fields. The elements constitute one coherent, logical method of dividing Career Education into manageable parts. When spread across grades K-12, they represent the first CCEM schematic framework or "Matrix" of developmental program goals.

Eight Element Outcomes

After the elements were identified, the CVTE staff designated terminal "outcomes" or realistic student learning goals for each element. These

"outcomes" were designed to equip the exiting student with an entry-level job skill and to prepare him for further academic or vocational education. The outcomes are: 1) Career Identity; 2) Self Identity; 3) Self Social Fulfillment; 4) Career Decisions; 5) Economic Understandings; 6) Employment Skills; 7) Career Placement; and 8) Educational Identity. (See Figure 3 on page 13 for the CCEM elements and outcomes.) Later, this initial conceptualization was expanded to reflect the program's emphasis on life-style goals and on serving the broad career development needs of learners.

ELEMENTS OF CAREER EDUCATION



THE CCEM PROGRAM GOAL MATRIX. ...

When placed graphically against the 13 grade levels, kindergarten through twelfth grade, the eight elements and their corresponding outcomes constitute one clear frame of reference, or matrix, for directing and organizizing the content of a comprehensive career education program. (A simplified CCEM Program Goal Matrix is illustrated in Figure 5 on page 16.)

LEA Workshops

After the initial validation of the CCEM conceptual Matrix in August, further development continued at CVTE. During October, the six LEAs conducted separate Matrix workshops, involving many classroom teachers and other school personnel in helping to "build" the Matrix. Workshop participants were asked (1) to take each element, grade-by-grade, and write appropriate general program goals; and (2) to translate each goal into measurable performance objectives that indicate what the student will be able to do.

Delphi Process

The results from each of the workshops were subjected to analysis and modification through a variation on the Delphi process of reviewing data. This procedure included several rounds of information exchange, analysis and revision between the LEAs and CVTE. A final synthesis of the Matrix material was completed in December, 1971. This resulted in the first operational version of the CCEM Program Goal Matrix.

Identify Matrix Themes

Besides being extensively involved in the review, editing and rewriting

of Matrix goal statements and performance objectives, the LEAs also helped to identify "common strands" of thought or "themes" within the Matrix goals that extended across all (K-12) grade levels. Similar goals were grouped and restated as "themes" within the elements. A total of 32 themes were adopted by CCEM on December 15, 1971.

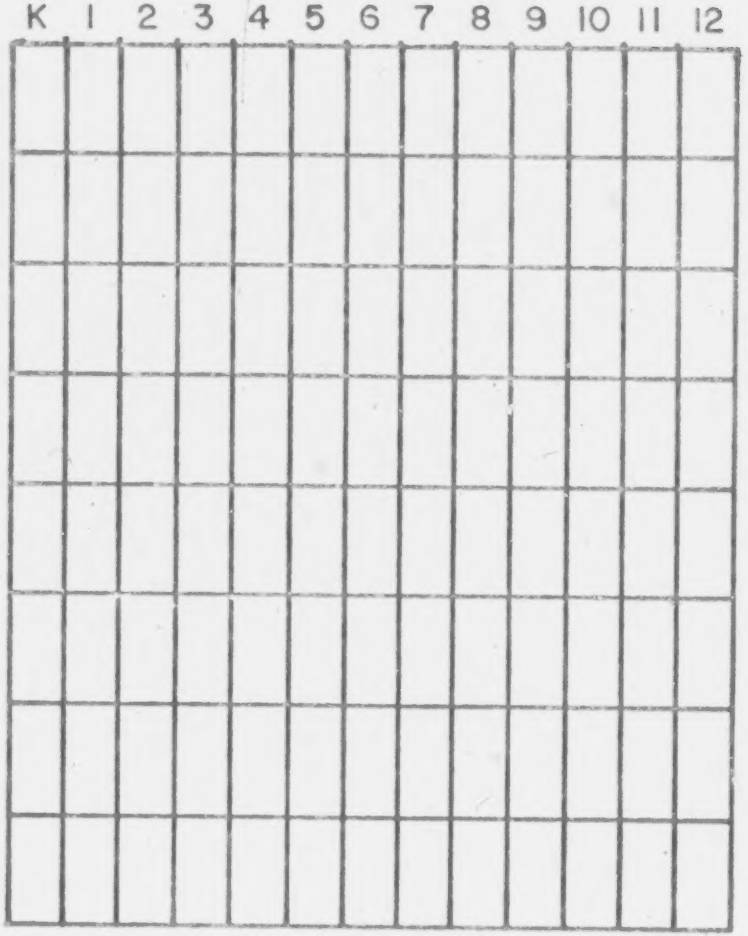
Because each element represents such a broad area of learning, more specific themes proved helpful in organizing new learning experiences for Career Education.

When positioned across the 13 grade levels, the 32 themes resulted in a matrix of 416 blocks or cells (32x13). Each cell indicates at which grade level students need specific learning experiences. With the assistance of more than a hundred classroom teachers, school administrators and curriculum specialists from the six LEAs, the CVTE staff identified appropriate learning goals for each theme at each grade level. A total of 1,477 goals were developed in a sequential relationship, representing the learning achievements necessary for comprehensive Career Education.

Further development of the Matrix was directed by a task force, which became involved in a Delphi analysis of each element, theme, goal, and performance objective. Each theme was analyzed to detect gaps and weaknesses. Each goal was analyzed for consistency with its theme and with the student's development at that grade level. Each performance objective was analyzed to determine if it contained all the components necessary for evaluation of the student's performance. This review and rewriting procedure was completed on January 28, 1972, and the "operational Matrix" was then forwarded to the six LEAs.

C C E Matrix

DEVELOPMENTAL PROGRAM GOALS



ELEMENTS OF CAREER EDUCATION

ELEMENT OUTCOMES

The CCEM Matrix, with its elements, themes and goals, did not originate out of an isolated "think tank" or as the product of a few select "experts." Classroom teachers, curriculum/guidance specialists and school personnel were involved in a dynamic process of continual feedback and revision that extended over a period of nearly six months.

While the CCEM Matrix of program goals is far from "ideal" or complete, it is a highly useful tool. It provides a frame of reference for defining the direction for the program content of a comprehensive career-oriented curriculum, and it also charts the grade-by-grade sequencing of goals that the student is expected to achieve. Further refinement of the Matrix is anticipated as it is used in each LEA to identify curriculum units, and to develop CCEM curriculum materials.

CURRICULUM UNIT SELECTION...

The CCEM was originally conceived as a "capstone" project. Existing curriculum materials were to be identified, refined and packaged into a transportable program.

Even a cursory examination of existing curriculum materials, however, found them to be far from comprehensive. Since neither the quantity nor the quality of curriculum units was sufficient for creating a viable CCEM, the scope of the project expanded to a major assembly and refinement program.

Since the curriculum units ultimately chosen were to be installed and tested in all six LEAs during the 1972-73 school year, the unit selection process was considered critical to the success of the CCEM.

The strategy used in developing curriculum units was one of infusion: to weave Career Education into all contemporary school subjects--not to develop self-contained courses in Career Education. The objective was to identify the potential of units to deliver the appropriate grade level goals within the math program, the reading program, the science program, the social studies program, etc.

The unit selection process involved two major efforts: a review and analysis of existing curriculum units at the six LEAs; and a national search for all "on-shelf" units relating to Career Education.

LEA Unit Inventories

The curriculum selection process began in November, 1971, when the six LEAs inventoried all of their in-place (existing) units that delivered on the Matrix goals at each grade level. Approximately 1,000 units were identified in this initial process. By December 17, a total of 269 of these units had

survived the first rigorous screening process at CVTE and were considered for inclusion in CCEM.

National Search

The CVTE solicited bids from six firms to locate, retrieve, screen and classify existing noncommercial curriculum materials relevant to Career Education. On November 1, 1971, the Palo Alto Educational Systems, Inc. (PAES) of Scottsdale, Ariz., was awarded the national search subcontract. Three major sources were tapped by PAES--exemplary education projects funded by the USOE; state departments of education, and local school districts. A total of 736 curriculum units were identified by PAES. The search also provided CCEM with a list of types of materials canvassed, a system for classifying curriculum units, an assessment instrument for evaluating rearch materials, computer printout booklets of all rearch materials, and a final report on the search effort. All search materials were submitted to CVTE for further evaluation.

Development of the CUSI

A device for evaluating curriculum units was developed jointly by CVTE and LEA personnel in November. This was called the CCEM Curriculum Unit Selection Instrument (CUSI). It was designed to identify: (1) units ready to be field tested; (2) units in need of refinement; (3) units which should be eliminated; and (4) types of refinement necessary.

The CUSI was administered to the 269 LEA "in place" units in January, 1972. After a careful analysis of the results, 90 units were dropped, reducing the number of portentially usable LEA units to 179.

Unit Analysis Process

During January and February, LEA representatives were intensively involved at CVTE in planning and implementing the unit selection procedures. Alternative methods for selecting units were explored, revised, refined and tested. A "Curriculum Analysis Work Sheet" was developed for the purpose of rating units, estimating teaching time required, and recommending "go" or "no go" decisions on individual units. A total of 915 units were subjected to this thorough analysis (179 LEA in-place units and 736 national search units).

Teams were assigned to each grade level to insure adequate coverage of Matrix goals and performance objectives for all grades. By mid-February, 105 units had been selected for modification and installation in the LEAs during the 1972-73 school year. Contracts were then negotiated with the LEAs to refine and pilot test specific units during the spring and summer months.

Unit Evaluation

The importance of obtaining teacher feedback following pilot testing of selected curriculum units prompted the CVTE evaluation component to develop a Curriculum Unit Process Evaluation Instrument (CUPEI), which was later subtitled "Unicheck." This instrument has been distributed to the LEAs for use during unit pilot testing. It provides a mechanism for allowing teachers to evaluate each unit during and following classroom experience. It is expected that the "Unicheck" will undergo further revision after its initial classroom exposure.

RESEARCH ON CLUSTERING ...

During the early conceptualization of CCEM, considerable attention was devoted to examining clustering concepts as a vehicle for organizing information about the world of work. The initial USOE clustering concept for Career Education provided an organizational structure for Occupational Information, including Job Opportunity-Labor Market, and Career Preparation information.

The purposes of this clustering system were to supply the student with information about the world of work, to help him choose a career suitable for his interests and abilities, and to provide models that shape instructional objectives and learning experiences.

Since it was felt that a clustering system could be useful in identifying and validating appropriate career clusters for CCEM, the CVTE solicited bids from four educational research firms to undertake this effort. On November 1, 1971, the Human Resources Research Organization (HumRRO) of Alexandria, Va. was awarded a subcontract to construct a clustering system for CCEM.

HumRRO reviewed available materials and found that existing clustering systems were of three basic types: 1) descriptive; 2) sociological-psychological; and 3) task-analytic. After determining that none of these systems adequately met CCEM needs, HumRRO devised a new clustering system for CCEM by synthesizing useful features of existing systems. The HumRRO analysis of clusters proposed that CCEM utilize a model with one facet representing institutions, a second using occupational groups, and a third depicting the status or level at which the occupation exists.

The HumRRO clustering report, entitled, "The Validation of a Set of

Occupational Clusters for use in the CCEM," contributed significantly to the development of the CCEM Career Information System Model (see pp. 35). Essentially, it enabled CCEM to appraise alternative clustering approaches and to assess CCEM information requirements.

EVALUATING THE CCEM...

The need for an objective, summative evaluation of the progress and performance of CCEM was recognized both by the USOE and the CVTE early in the project. Consequently, bids for the external evaluation effort were received from six firms, and on November 1, 1971, a subcontract was awarded to the Institute for Educational Development (IED) of New York City.

Evaluation Tasks

IED was to perform four tasks: (1) monitor the performance of the CVTE/CCEM project staff; (2) evaluate the performance of the instructional staff in the six cooperating LEAs; (3) characterize the six LEAs so that other LEAs can determine whether they are similar enough to consider adoption of all or a portion of CCEM for their local use; and (4) determine the amount of pupil growth in achieving the CCEM objectives.

IED submits quarterly evaluation reports to CCEM and USOE. The next interim report is due July 31, 1972.

Attitude Inventories

As a part of its subcontract, IED agreed to inventory and measure the attitudes of pupils, parents, and teachers toward Career Education in the six LEAs. An "Attitude Inventory Instrument" was constructed and pilot tested at three LEAs in December, 1971. The instrument was then revised and administered at all six LEAs in January, 1972. At Los Angeles, the instrument was translated into Chinese and Spanish and administered in these languages as well as in English.

IED issued a report of its findings in February, 1972, which indicated

highly positive attitudes toward the concept of Career Education among most of the 15,000 survey participants. Computer printouts of the data collected were submitted to each LEA.

Significant aspects of the survey indicate that a career education model can feasibly be designed for use in all LEAs, and, more important, that a program which has high acceptance at one LEA will probably work well in the other five.

In summation, the report states:

> Pupils, staff and parents all have extremely positive attitudes toward career education. They evidently think that career education is important and that schools would be better if it were available. They believe that career education can change a person's future. They believe that it can lower the high school drop-out rate and increase employment. And they do not regard it as a fad that will soon be forgotten. (pp. 27)

A second report will be presented by IED after June, 1973, when the same three populations--pupils, parents, and teachers--again will be surveyed to identify any attitudinal changes.

HOW CCEM OPERATES...

Methodology

There are two operational factors that make CCEM unique. First, CCEM is a cooperative program among six independent school districts and a university-based educational research center. This relationship is even more unusual because all funds are channelled by USOE through the research center (CVTE), and none are granted directly to the six LEAs. In essence, the CVTE is responsible for monitoring the project and is accountable for all project monies.

A second, and even more distinct aspect of CCEM is the application of engineering methodology to educational research. In its project guidelines, the USOE prescribed a "research and engineering" effort for CCEM--one that develops a "systematic approach" to infusing career education into the existing K-12 curriculum.

While the "systems approach" surfaces in many areas of CCEM, it is probably most visible in the mapping of project tasks on various types of charts, and in defining plans of action by time periods according to skill and manpower requirements.

Other "engineering" characteristics of the CCEM emerge in careful attention to quality control and evaluation procedures, a detailed management structure, daily documentation of project activities, emphasis upon problem-solving techniques, development of sophisticated data collection methods, and concentration upon readying "products" (units) for fall installation.

CCEM is characterized by fast-paced activity at CVTE and the LEAs. During the early months of the project, considerable time was devoted to

organizational efforts and heavy personnel recruiting. As the Matrix became operational, and the LEAs developed actual curriculum units to mold into a career education program, a spirit of "it's really going to happen" permeated the project.

Organization

Initially, CCEM operations were organized according to major work functions, each headed by a group or unit chief, who was responsible to the CCEM project director. The CCEM director reported in turn to the director of the CVTE. A CVTE resident team (usually of three persons) at each site provided a liaison between CVTE and the individual LEA project staff.

A reorganization of project management in March, 1972, divided major administrative responsibilities into two areas: program development, and planning and systems. Associate project directors were named to head these two divisions, thus creating a "middle management" team to assist the CCEM project director.

The Planning and Systems Division deals with the areas of long-range planning, quality control, subcontracts, data collection, documentation, reports, fiscal planning and monitoring, and allied support services. The Program Development Division has responsibilities for the Curriculum, Guidance and Placement, Support Systems, Staff Development, Evaluation, and Community Relations groups. Professional personnel recruitment and information activities are handled by a separate unit. A new subcomponent, SI/CCEM (the Supportive Information for the Comprehensive Career Education Model) was established in March to identify and access instructional materials relating to Career Education. Preliminary work is underway on the Post-

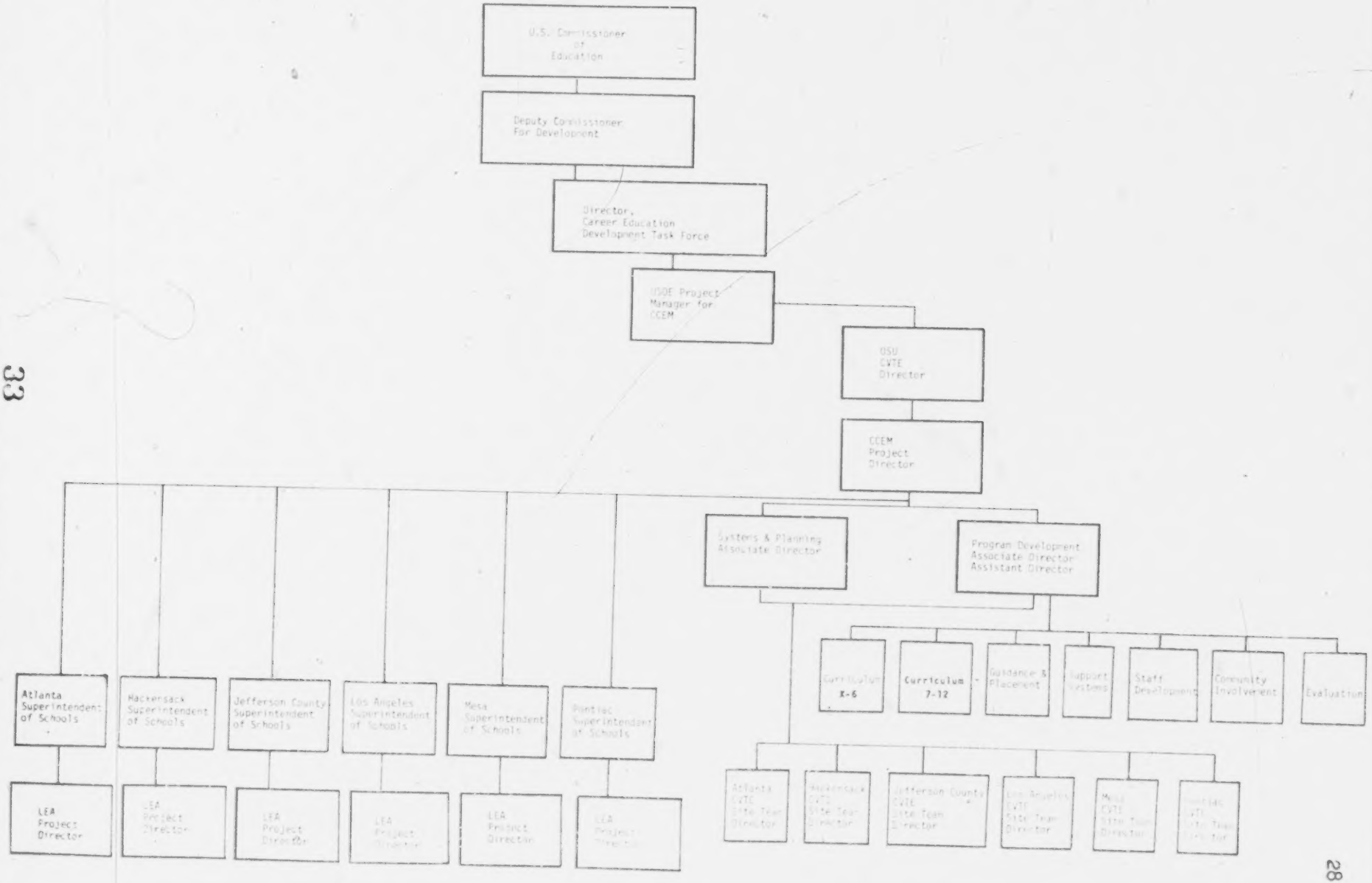
Secondary and Rural subcomponents, to meet the special needs of rural communities and post-secondary students.

To facilitate internal communications, all unit chiefs meet weekly with the project director and associate directors. Monthly staff meetings are held to inform all staff of significant developments in the project.

Staffing

The CVTE/CCEM staff in Columbus as of May 31, 1972, included 26 senior staff, 6 technical associates, and other support staff, 14 parttime graduate research associates and 15 clerical staff. The six CCEM site team staffs at that time totaled 21. (See attached CCEM Table of Organization.)

Table of Organization



PROJECT DIVISIONS

PLANNING AND SYSTEMS...

The Planning and Systems Division is responsible for developing and monitoring the long-range planning procedures of CCEM, designing and monitoring the CCEM fiscal management system; maintaining quality controls; documenting and reporting CCEM activities; allocating facilities and equipment; and monitoring of subcontracts.

Since March, 1972, a management system has been outlined, and the project has been functionally organized to define the work breakdown structure. Cost centers have been assigned to collect budgetary information, and scheduling procedures have been defined. Peat, Marwick, Mitchell and Co., a nationally recognized public accounting firm, was engaged to help with the design phase of the management system and to help with networking project activities into short-range (six months) planning charts.

The division has developed a system for monitoring curriculum unit development, and is in the process of designing a curriculum unit production monitoring system. Systems for monitoring other tasks are planned.

Documentation

All project correspondence, telephone memoranda, working papers, reports, field visit summaries, and other documents are collected, coded, and filed. An inventory of the documentation file is forwarded monthly to USOE. Functions of this section also include editing and facilitating publication of developmental project materials; preparing USOE reports and internal communications such as newsletters; and documenting significant project events. A telecopier, installed in May, has proved to be a valuable communications tool between CVTE and the six LEAs.

CCEM Subcontracts

Two major subcontracts were negotiated during the previous quarter.

1. Matrix Refinement -- The CVTE issued a subcontract in May to Westinghouse Learning Corporation of Palo Alto, Calif., to review, edit and prepare the CCEM operational Matrix for publication. Staff members who had participated in the development of the Matrix were interviewed, and the project documentation was reviewed. The research edition of the Matrix, which specifies the CCEM elements, themes and developmental program goals, will be printed in limited quantities this summer.

2. National Search -- Three bidders responded to the CVTE's request for the bids to conduct a national search for commercial materials related to career education. A bidder's conference was held at CVTE on May 16, and finalists for the national search effort were to participate in contract negotiations at CVTE in June. The subcontract is expected to be awarded in July, following approval by the USOE.

PROGRAM DEVELOPMENT...

Curriculum

The CCEM curriculum (K-12) has been defined as "all those experiences of the child under the auspices of the school which utilize both on and off-campus educational resources to provide the opportunity for, an appreciation for, and an understanding of (1) the dignity of work and (2) a useful and fulfilling life." (McKinney, "CCEM Curriculum," 1972)

Conceptualizing a curriculum design for the CCEM is a major endeavor. It is an evolutionary process in which final closure is not possible, and probably is not even desirable. At present, the following curriculum objectives for students in a comprehensive career education program have been identified:

It is assumed that CCEM must:

1. Assist youth to choose an individualized personal life style and to establish and discover alternative paths for reaching goals commensurate with that life style;

2. Prepare students to enter the "world of work" as contributing members of a productive society;

3. Assist young people to view education as a lifelong pursuit that is not restricted to schools, classrooms, or traditional institutions of learning; and

4. Assist youth to develop problem-solving skills required to cope with an increasingly cybernated society.

Curriculum Activities

The CCEM curriculum activities have been divided into two subcomponents; the K-6 group, which is responsible for the development and implementation of a career awareness curriculum for kindergarten through sixth grade students; and the 7-12 group, which is responsible for the career exploration and career entry preparation of students in grade 7-12. Additionally, a special Career Preparation Task Force is conceptualizing ways to deliver the 10-12 curriculum program.

All CCEM curriculum groups (K-6, 7-12 and Career Preparation) were intensively involved in the two major CCEM activities completed prior to March, 1972--development of the operational Matrix, and selection of CCEM treatment units for fall installation.

The curriculum section also helped to organize a Curriculum/Career Preparation workshop held at Lakewood, Colo., from January 10-13, which dealt with such topics as selection and preparation of units for fall, occu-

pational analysis of the LEAs by the career preparation staff, and in-service (staff development) plans.

Major activities for the previous quarter (March-May, 1972) were: (1) refinement/development of curriculum units in the LEAs; (2) identifying gaps in the unit coverage of CCEM Matrix goals; (3) reviewing LEA unit outlines; (4) identifying priority units; (5) guiding the development of the 4-5-6 and 7-8-9 cluster units; (6) monitoring curriculum unit development in the LEAs; (7) establishing pilot test procedures; (8) initial conceptualization of the 10-12 curriculum program; and (9) coordinating a Curriculum/Guidance/Support Systems workshop in Los Angeles from March 6-9.

Unit Refinement/Development

The CCEM curriculum unit refinement/development process is an engineering-assembly approach. Existing curriculum units are selected from LEA and national search sources for refinement, pilot testing, and installation (field testing). The 32 Matrix themes and their goals provide direction for the selection of treatment units.

Following the contracting of curriculum units by the LEAs in February, 1972, the CCEM Curriculum group focused on establishing priorities and policies for unit monitoring. Informal curriculum conferences were held at the LEAs early in April to review unit refinement/development guidelines, procedures and criteria. The LEAs submitted their initial unit development outlines to CVTE in April, and unit priorities were then established. (The Curriculum Unit Development System is depicted in a flowchart in Figure 5 on page 33). Unit development activities began at each of the six sites.

On May 11, the first CCEM curriculum unit was received. Developed by the Pontiac, Mich., LEA, the third grade "Supermarket" unit was reviewed by

CURRICULUM UNIT DEVELOPMENT SYSTEM

Flow of Work from Initiation through Pilot Testing

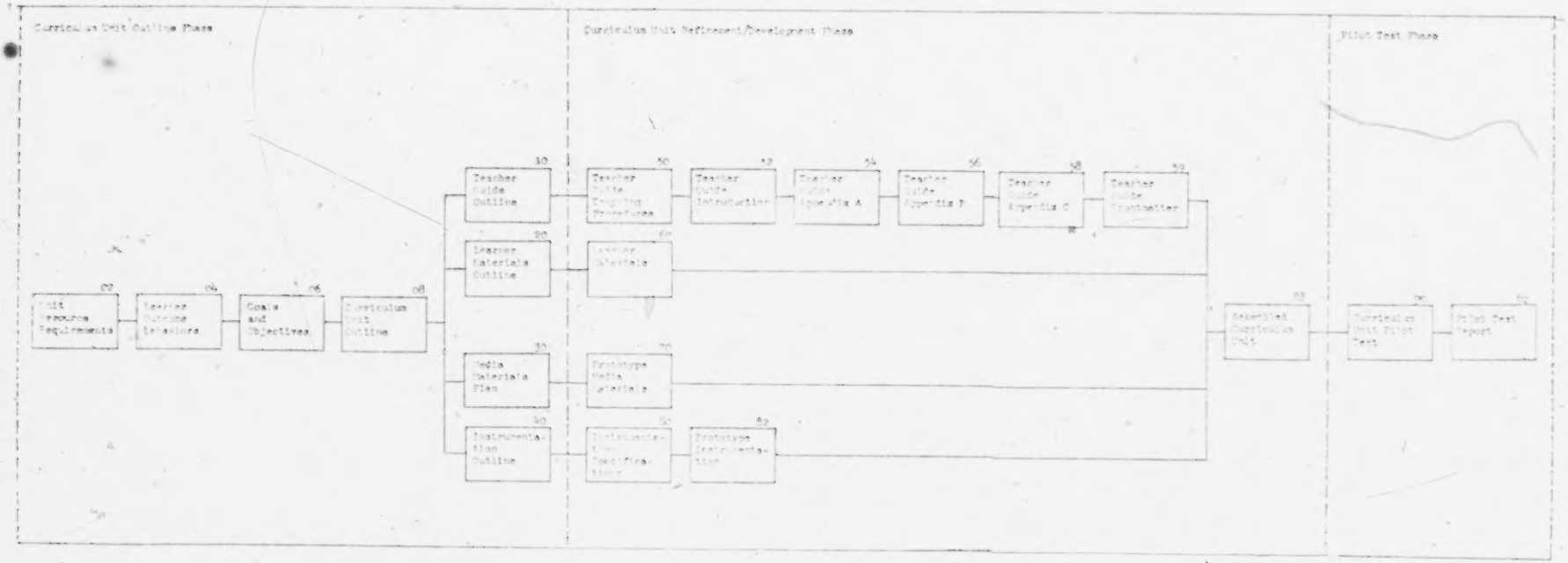


Figure 5

CVTE and approved for pilot testing in May. This unit introduces the primary child to an ordinary retail business that he can relate to.

CVTE evaluation personnel monitored this first pilot test procedure and drafted guidelines for testing of future units. Other units will be pilot tested during the coming weeks. A second grade unit, "People Who Work With Animals"; and a kindergarten social studies unit,"Work," will be tested in Pontiac. The Atlanta, Ga., LEA will pilot test a ninth grade "Photography" unit and a third grade "Forestry" unit.

The number of CCEM units currently being developed by each LEA is as follows: Atlanta, 16; Hackensack, 10; Jefferson County, 22; Los Angeles, 27; Mesa, 16; and Pontiac, 14. Of these 105 units, between 20 and 40 priority units will be ready for fall, 1972, installation. The remainder of the units are expected to be installed in 1973.

Career Preparation

The CCEM Career Preparation Task Force was established in April and is responsible for the conceptualization, development and implementation of the 10-12 CCEM curriculum program. Functioning as a part of the Curriculum group, the task force met with four consultants in the field of vocational education at CVTE on April 26-27. A working paper on the career preparation conceptualization was presented at the workshop. Revisions to the paper were to be reviewed by LEA representatives and CVTE personnel at a conceptualization conference at CVTE in June.

Community Relations

The Community Relations component was created to accomplish three major tasks: (1) incorporate community resources in the development and

implementation of Career Education; (2) inform the LEA communities of the progress and implications of CCEM; and (3) support the LEAs in the development and implementation of a community involvement program.

Prior to May, 1972, this component also was primarily responsible for CCEM professional personnel recruitment and for information activities. These activities were transferred to a separate unit as of June 1.

Major activities during the previous quarter (March-May) included: (1) review and approval of final script for "I Want to Be" career education film developed by the Hackensack LEA; (2) schedule monthly visitors' briefings; (3) review and approval of a general brochure on CCEM for public distribution; and (4) review of LEA plans and preparation of community relations guidelines. The CCEM Community Relations group prepared working papers dealing with parental involvement, industrial relations, community organizations and mass media.

Support Systems

The Support Systems unit is responsible for gathering, analyzing, storing, and disseminating information required for the delivery of Career Education and for the effective management of the Career Education process. This component is setting up systematic methods for organizing and classifying student data, instructional career information, educational resources information and placement information.

Career Information System Model

The development of a preliminary Career Information Model (CIM) was completed by the Support Systems unit in March, 1972. The model represents a composite of several clustering and occupational information systems.

The model provides an information base consisting of the 21,741 job definitions contained in the U.S. Department of Labor's Dictionary of

Occupational Titles. It organizes this information around a three-dimensional approach to the "world of work": (1) it examines the range of occupations within industries--or what job is done; (2) it explores the commonality of tasks performed--or how the job is done; and (3) it analyzes worker traits, attributes and other characteristics--or who does the job.

Workshops were held at each LEA during March and April to review the CIM. Support Systems coordinators designated from each LEA attended the sessions.

The CIM provides the prototype for the development of a CCEM Career Information System. This system is to include national, state and local occupational, educational and labor market information to be made available for use by students, teachers, counselors and school administrators. It is being developed cooperatively by CVTE/CCEM and LEA personnel.

Senior Planning Questionnaire

During May, a senior planning survey was prepared by Support Systems and administered to a group of senior high school students in each of the LEAs. The primary purpose of the questionnaire was to obtain data from students not exposed to the CCEM. This data will be used for future evaluation purposes.

Future Support Systems tasks will include pilot testing the Career Information System, developing a Pupil Data System, and developing an instructional Management Information System.

Staff Development

The primary area of concern for this component is the in-servicing of the entire CCEM project staff at each of the six LEAs. This includes Staff Development training for administrators, counselors, teachers, paraprofessionals

and other support staff, regarding their individual roles and tasks in relation to unit delivery. The Staff Development group also is responsible for the selection and development of various instructional aids and resource materials to support CCEM in-servicing programs.

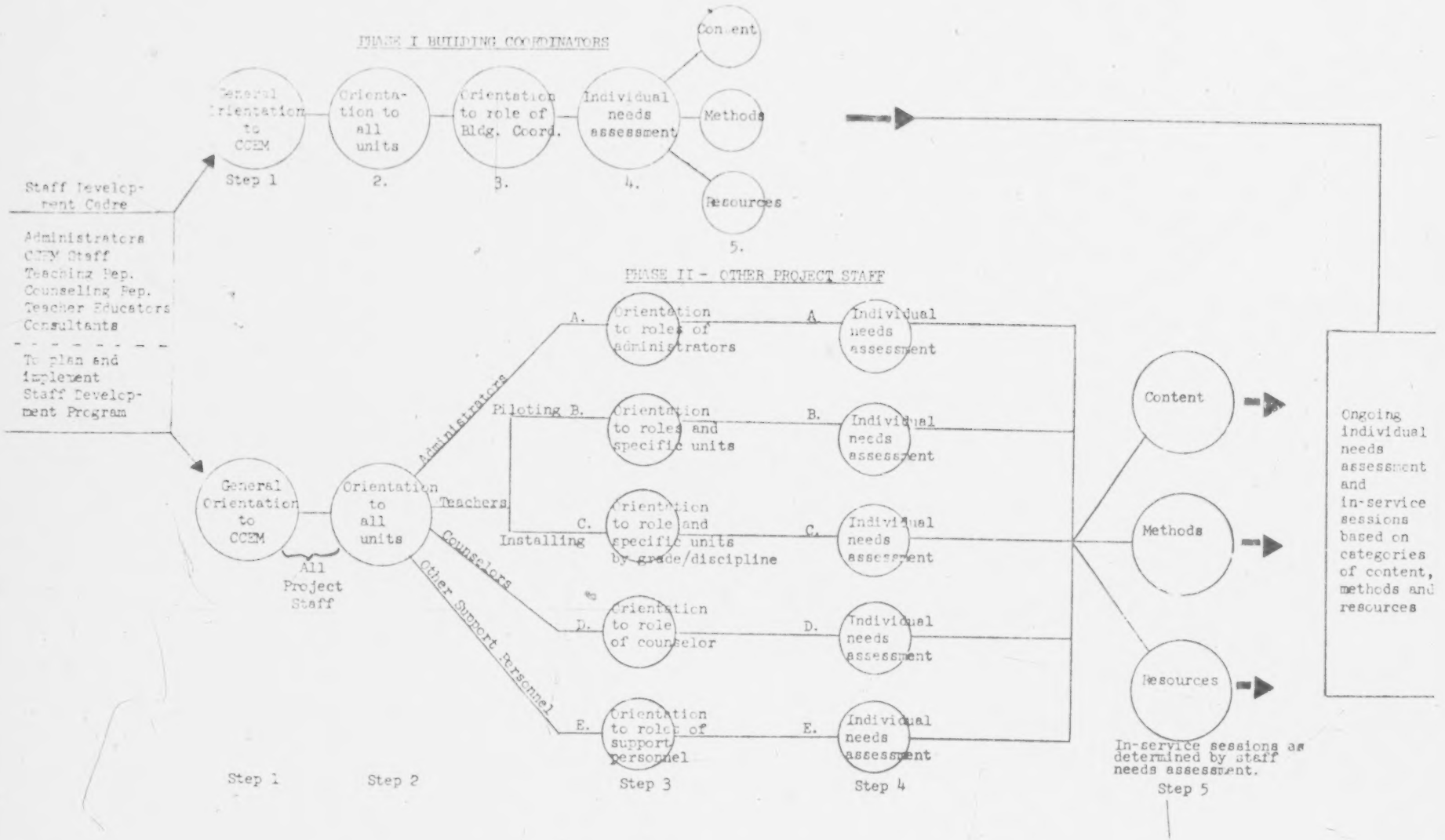
Major activities during the past quarter were: (1) preparation of guidelines for LEA Staff Development activities; (2) an in-servicing workshop held March 13-15 in Atlanta for LEA representatives; (3) review of the individual LEA Staff Development plans; and (4) development of a CCEM Staff Development conceptual model specifying roles for teachers, administrators, counselors and other school personnel. (See Figure 6 on page 38 for the Staff Development Conceptual Model.)

Slide-Tape Presentations

During the previous quarter (March-May), the Staff Development unit monitored the development of 20 sound-slide presentations designed to orient different target audiences to CCEM. The presentations were developed by CVTE's external evaluator, IED, with the cooperation of representatives from CVTE and each of the LEAs. The sound-slides included individual programs aimed at teachers, counselors and administrators in each LEA, a "national professional" presentation designed for educators; and a "national community" presentation for community groups.

In-Service Products

Several in-service products were generated by the Staff Development unit, including an Orientation to Career Education (a graduate course of study); Staff Development Guidelines; Guide to the Use of the Resource Kit; and a Course Outline for Administrators. A CCEM glossary also is being


PHASE I BUILDING COORDINATORS
General Orientation to CCEM
Step 1
Orientation to all units
2.
Orientation to role of Bldg. Coord.
3.
Individual needs assessment
4.
Content
Methods
Resources
5.
Staff Develop-ment Cadre
Administrators
CCEM Staff
Teaching Rep.
Counseling Rep.
Teacher Educators
Consultants
To plan and implement Staff Develop-ment Program
PHASE II - OTHER PROJECT STAFF
General Orientation to CCEM
All Project Staff
Orientation to all units
Administrators
Teachers
Piloting
Installing
Counselors
Other Support Personnel
A.
Orientation to roles of administrators
A.
Individual needs assessment
B.
Orientation to roles and specific units
B.
Individual needs assessment
C.
Orientation to role and specific units by grade/discipline
C.
Individual needs assessment
D.
Orientation to role of counselor
D.
Individual needs assessment
E.
Orientation to roles of support personnel
E.
Individual needs assessment
Step 1
Step 2
Step 3
Step 4
Content
Methods
Resources
In-service sessions as determined by staff needs assessment.
Step 5
Ongoing individual needs assessment and in-service sessions based on categories of content, methods and resources

compiled, and resource materials, including an indexing system, are being developed.

Evaluation

The CCEM Evaluation component is responsible for (1) the development, implementation and analysis of formative (internal) evaluation procedures; (2) the development of testing procedures and instruments; and (3) the co-ordination of methodological training (i.e., training LEA personnel in the techniques of test construction).

This group developed a CCEM Curriculum Unit Process Evaluation Instrument (CUPEI), subtitled "Unicheck." This instrument will be used by teachers in the LEAs during and following pilot testing of CCEM curriculum units. It will provide both pupil and teacher feedback on the effectiveness of the developmental CCEM units. The Evaluation unit has developed instrument guides for test items, helped develop pilot test guidelines for units, and is reviewing unit evaluation items. Workshops were held to initiate the test item writing effort. The group also is developing a process and instrumentation for evaluation of the CCEM Staff Development program.

Guidance and Placement

The Guidance and Placement unit has two major objectives: (1) to delineate roles for guidance personnel in relation to other CCEM components and also in relation to the specialized guidance and counseling services; and (2) to design, develop, and test guidelines for installing and operating the job, educational, and special service placement services for students.

Placement Program

During the previous quarter, a subcontract was issued to the Jefferson

County, Colo., LEA for the design of a comprehensive K-12 prototype placement program. This program is to include job placement, educational placement, and placement for special services.

Guidance Program

The Guidance unit participated in the Curriculum/Guidance/Support Systems workshop held March 6-9 in Los Angeles. A working paper on student transition, decision and action points was reviewed. During the previous quarter, this group completed a review of the CCEM Matrix, identifying guidance and placement delivery responsibilities by grade level. This review was then applied to CCEM curriculum units, to determine whether goals identified as "guidance/placement" are actually delivered by existing units. Guidelines for a comprehensive CCEM guidance program are expected to be prepared during the next quarter.

WHERE DO WE GO FROM HERE . . .

During the next quarter (June 1-August 31, 1972), CCEM project activities will be concentrated in several areas. The most intensive effort will be the refinement/development of curriculum units for field testing at the LEAs in the 1972-73 school year. Units will be developed and pilot tested continuously this summer through a cooperative effort by the CVTE/CCEM and LEA staffs and independent curriculum specialists. A system will be implemented to reproduce CCEM curriculum units for distribution to the LEAs for field testing.

Parallelling the refinement/development effort will be extensive Staff Development activities to train LEA personnel prior to fall installation (field testing) of units. The field testing process will be subjected to thorough and continuing analysis by both internal and external evaluators.

The conceptualization of several CCEM components will be continued during the next quarter. Working papers will be generated for the specific grade areas of 4-6, 7-9, and 10-12, and groundwork will be laid in the new Post-Secondary and Rural subcomponents. Work will continue on the development of project Support Systems, and the CCEM Guidance, Placement and Community Relations programs.

As CVTE and the LEAs gear up for the 1972-73 field testing endeavor, increased efforts will be devoted to communications between CVTE and the LEA school administration and project staff.

During the coming quarter, a subcontract will be awarded for the national search for commercial Career Education materials. The first substantive project publication, the CCEM Matrix of Developmental Program Goals, will be edited and printed in August. The next quarterly report, for the June 1-August 31 period, will be available in October, 1972.

SUMMARY...

"Career Education: An Idea Whose Time Has Come" -- This headline appeared in the June 20, 1972 issue of the New York Times, over a letter by Sidney P. Marland, Jr., USOE Commissioner of Education, which stated, in part:

> Something is wrong when public education allows 2.5 million young people in a single year to exit our schools and colleges without marketable skills. Even college graduates find themselves increasingly in this situation.
>
> These unfortunate young people represent an investment of $28 billion--about one-third the total annual cost of the educational enterprise. Even more distressing is the personal loss these young people undoubtedly experience as they find few if any rewarding outlets for their aspirations and energy.
>
> Career Education is simply a concept whose time has come. Traditional avenues to semiskilled occupations through on-the-job training are all but closed. Projects currently supported by my office are designed to help youngsters identify possible career choices in the course of their academic studies and to prepare for one or more of these choices so that wherever they leave the system--as high school dropouts or graduates, as college dropouts or graduates--they carry with them job skills commensurate with their interests and abilities.

The school-based Comprehensive Career Education Model is charged with developing a model that could restructure the present public education program around career development goals. These goals have been initially identified in an intensive research and engineering effort which began in July, 1971. This effort is an ongoing, dynamic process of continuous refinement.

The CCEM encompasses all grade levels, K-12, and extends into the adult years. It embraces business and industrial resources, and requires extensive community and family involvement.

The CCEM is being cooperatively developed by the CVTE and six local education agencies across the nation. It will be tested at these sites in a variety of demographic settings beginning in the fall, 1972. Ultimately, a validated, nationally transportable Career Education program will be available to all American public schools.

The objectives of CCEM are rooted in the real life needs of students. The program is an innovative and challenging one that will require extensive redirection on the part of school districts that choose to adopt either all, or a portion, of the Career Education model. Above all, it is a concept that focuses on the immediate task of making school more relevant for the student.

The program will be successful if it prepares each exiting high school student both for the next educational step in his "career ladder" and for a marketable, job-entry skill. But more importantly, it aims to open the student's eyes to the broad range of career options available to him as he selects a self-fulfilling life role.

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